

A Level Computer Science

Exam Style Questions

Unit 1.4.1

Data Types

Part 1: Primitive Data Types & Characters

| | | | |
|-------------|--|-------------|--|
| Name | | Date | |
|-------------|--|-------------|--|

| Score | Percentage | Grade |
|--------------|-------------------|--------------|
| / 12 | | |

Question 1

A simple program is shown below.

```
// Program to calculate number of times a number goes into 100
count = 0
num = int(input("Enter a number"))
While (count*num) < 100
    count = count + 1
End While
count = count - 1      // Take one off as gone over
print(str(num) + " goes into 100 " + str(count) + " times.")
```

a) State the most suitable data type of the variable count

[1]

b) State the data type of the result of the expression (count*num)<=100

[1]

c) State the data type of the result of the expression

```
str(num) + " goes into 100 " + str(count) + " times."
```

[1]

Question 2

A student writes a program to apply a symmetric encryption algorithm to work on messages of up to 25 ASCII characters.

Describe what is meant by the term 'ASCII'.

[2]

Question 3

RestaurantReview is a website that allows users to leave reviews and ratings for different restaurants. User ratings are stored in a database.

The database previously stored reviews using the ASCII character set. ASCII uses 1 byte per character. It is decided to switch to the Unicode UTF-32 character set which uses 4 bytes per character.

Give an advantage and disadvantage of changing character sets from ASCII to Unicode UTF-32.

a) Advantage

[1]

b) Disadvantage

[1]

Question 4

Variables in programs contain specific types of data.

Complete the table below to suggest a suitable data type for each piece of data.

| Data | Data Type |
|---------|-----------|
| 'H' | |
| "Hello" | |
| 35 | |
| -2.625 | |
| True | |

[5]